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FESSENDEN'S

SILK MANUAL

AND

PRACTICAL FARMER.

Devoted to the Culture of Silk, Agriculture, and Rural Economy.

VOL. II. BOSTON, SEPTEMBER, 1836. NO. 5.

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BOSTON, SEPTEMBER, 1836.

(For the Silk Manual.)

PROGRESS OF SILK CULTURE IN THIS COUNTRY.

The success which has so far, generally attended the efforts that have been made by individuals, who have taken hold of the work in right good earnest, to introduce the culture, and manufacture of Silk among us, certainly gives fair and encouraging prospects of ultimate and not very far distant success. Is it asked what has been done? Look at the enterprise at Nantucket, where already silks of fine texture, comparing with the finest of European produce, have been manufactured, and on a Power-loom, of purely American ingenuity, the *second one in the world*, used for the purpose of manufacturing Silk stuffs—the first being at Providence, under the direction of the Silk Company there. Look at the Company at Framingham, in successful operation. That at Dedham, and at Northampton; at both of these places, factories are building, and their plans nearly completed to commence extensive operations. At Woburn a company has been formed with a large plantation of Mulberries under successful cultivation. There are some others in this state, and many in other States, all, as far as we can learn, prospering remarkably and beyond expectation. We will not forget to mention the Connecticut Silk Company. By its liberal policy hundreds of indigent persons, male and female, are taught, free from charge, in the mystery of reeling and spinning silk, and thus hundreds are placed in comfortable situations, and pass their days in industry, content and independence, who otherwise might have lived in poverty and indolence.

And individual enterprise has been lending a powerful aid to advance this business. Mr Cobb almost unaided and alone, for more than ten years has been devoting his time and money for the interest of the cause. The venerable Du Ponceau of Philadelphin, and our patriotic Dearborn, have for a series of years, been investigating the subject, and laying the result of their research before the people. Whitmarsh of Northampton, whose splendid establishment is well known, is another that had faith, and embarked his fortunes in the silk business, looking forward to the time when it should assume a character and an importance for his remuneration, and well has he reaped. Adam Brooks, of Scituate, has invented several machines; his Silk spinner and twister is well known and is probably the best in the country. Mrs Brooks is an adept in the art of making sewing silk, and weaving. We passed a very pleasant hour at her hospitable mansion a few days since and were delighted with the specimens of her *workmanship* which she unfolded for our examination. Silk handkerchiefs, articles for vestings, for dresses, of the finest texture, beautiful hose, and gloves, and sewing silk, which is eagerly sought for on account of its superior strength. It is Mrs B's. intention to manufacture this fall, a piece of plush, &c. Her machinery is carried by horse-power.

We were highly gratified during a brief stay at New Haven, last June, in visiting the grounds of Mrs A. M. Wharton, (late Reddie.) We had heard much of Mrs W's. success in the culture of silk and expected to be gratified in our visit to her establishment. But we were really astonished at the extent, and excellence of her arrangements.

There is a cocoonery of generous dimensions, arranged in the most appropriate manner for the accommodation of the worms, in which are, now upwards 800,000, most in the last age, and ready to spin. [Since the above was written the

Silk Culturist for August has come to hand which contains the following.

SILK CULTURE.

We have seen notices that Mr Du Bouchet, late from France, had commenced the business of raising the Silk Worm in the western part of the city; but did not suppose the establishment to be one of much importance until we attended the exhibition of the winding up of the cocoons, held a few days since. He has a large two story wooden building erected for the purpose, where he has fed worms and raised about two millions of cocoons this season, and attached to the building has a very large nursery, of the mulberry, by means of which he intends to prosecute the business more eetensively.

We understand from Mr D'B. that he has the most improved and best machinery for reeling the silk, &c. He says the soil in this neighborhood is highly advantageous for raising the mulberry, and that there is no better location for carrying on the business extensively and profitably. He wishes some of our enterprising citizens to form a company for the purchase of lands and the erection of suitable buildings and convenience for carrying on the business in the best and most profitable manner; the company he would have so formed as to secure the interest of the stockholders in the property, and the avails of the business. He thinks he can convince any individual that it would be a very profitable investment of funds. We hope our citizens will not hesitate to afford pecuniary encouragement to an enterprise which promises to add wealth and importance to the town.]

Several hands find constant employ in gathering the leaves, and feeding the worms, all under the direction of M. Cha's Du Bouchet, a gentleman from France, well skilled in all the manipulations pertaining to Silk Culture, and the manufacture of Silk. The arrangements do credit to him. He has been eminently successful in bringing forward his worms,such a vast number of them, so early against all the disadvantage of a backward, and very unpropitious season.

Mrs W. has on her farm about 15,000 white Mulberry trees, and on her grounds adjacent, to the mansion house about 5000, with several thousand of the Chinese or Morus Multicaulis trees.

With a great many others Mrs W. has suffered from the gross impositions practised in Canton, in the shipment of seeds to this country, purporting to be what they are not, — "true and genuine Morus Multicaulis Seed." It is too bad that our enterprising citizens are to be thus fooled with. It is of immense injury in the loss of ground, loss of time, disappointment, and loss of money, which, at from seventyfive to four hundred and fifty dollars a pound for the seed, is not a small amount.

Cannot some measures be adopted whereby a recurrence of this cheat may be avoided?

Mrs W. informed us that she will have seed this year, from true stock, and which can be depended upon. This is a gratifying fact. When the trees begin to produce seed in this country, we may with certainty calculate upon having enough to supply a moderate demand in a very short time, and not be subject to the dishonest tricks before alluded to.

There are many others, whose names are not at hand, who have with a commendable spirit of liberality, contributed to introduce the business, and excite an interest in it. Enough has been shown, however, to satisfy any one that in a few short years, the silk business in all its various branches will be second to none in the Union.

(For the Silk Manual.)

MULBERRY TREES IN MAINE.

P. M. Whitcomb, of Saco, is the only gentleman, we have any knowledge of, that has cultivated the Mulberry to any extent in that State. There is no doubt but that the climate of Maine is equally adapted to the Culture of Silk, as any in New England, and we want to see the farmers there, embark in the business, experimentally at least, — believing that they will find their profit in it. We understand that Mr Whitcomb will have for disposal this year 60 or 70,000 seedling trees of the White Mulberry.

Should some gentlemen form themselves into a Silk Company, and purchase those trees, they would form a good business for themselves, and lay the foundation for the establishment of Silk Culture in that quarter.

The Messrs Cheney, of Manchester, two enterprising gentlemen, who are devoting their whole time to the culture of the Mulberry and of Silk, and whose eminent success in cultivating the Morus Multicaulis trees this season was spoken of in a late number of the Silk Culturist, — have left at our office a simple and useful contrivance for the worms to wind their cocoons upon. They do not pretend that it is anything new, or original but merely exhibit it for the advantage of those who are raising Silk worms, and have no definite idea of the most improved plan for their winding. We think this method is preferable to any that we have ever seen.

A Professor at Prague has discoyered that potatoes make good beer, as clear and as strong as wine.

SILK CULTURE.

From the correspondence of Gen. Tallmadge, it appears,

1. That one great source of national wealth of France, is the product of the Vineyard, under the culture of the husbandman—and the Silk worm under the fostering care of the wife.

2. That in Italy, partially, and chiefly in France the culture of Silk is carried on by private and individual industry.

3. That a damp climate is injurious to the silk worm—and that the culture of silk does not prosper *near the ocean.*

4. That France does not produce one half of the raw silk which she manufactures. Her population is so dense that she cannot furnish sufficient space for mulberry trees.

5. That the warm dry summers of the inland parts of the United States are admirably fitted for the culture of silk in families, and that we shall succeed in it. *That when the leaves of different kinds of mulberries are mixed together, the worms will select and gather the Chinese mulberry.*

6. That in Europe the mulberry trees are cut off and kept dwarfed, for the convenience of gathering leaves.

7. That although the Chinese mulberry is vastly superior to any other for feeding silk worms, yet from the inaptitude of French farmers to change habits, there are comparatively but few of the Chinese mulberry set out in France. At this time there are probably growing in America more Chinese mulberry than in all Europe. Even after the experience of ages, Europeans are said to act more from usage and habit, than skill and experience. The demand for mulberry in America is so great, that the French this year have sold us 100 trees where they have set out 10 for their own use.

Remarks on the foregoing :

If Silk is one of the greatest sources of national wealth to France, and not land enough to grow its mulberry, and are necessitated to import raw silk, why cannot the culture become of equal importance to the wealth and prosperity of these United States, where we have land enough and to spare?

If in some parts of Europe the culture of silk is chiefly done in families and by private individuals, why cannot we do the same ourselves? "We can and we will do it." It has already been done in Mansfield, Ct.; they have no special act of government to enable them to do it, yet they annually make and sell over 30,000 dollars worth of silk, all made in families. Even the town of Northampton, Mass., has one enterprising gentleman, who removed from Mansfield some forty or fifty years since and brought with him a portion of the silk habit, and has, as we are told, from only a few trees manufactured annually for 40 years not less than 75 dollars worth of sewing silk. This has been done in a silent and unostentatious manner, like other domestic employments, not sung in verse, or known scarcely a stone's throw from his residence. But how different at this time! Now, Northampton takes a prominent stand—is the very focus of silk culture,—possessing the knowledge and information necessary and requisite to the prosperity of the silk business.

If a damp location and the sea air be unfavorable to the health of the silk worm, then is plenty of room, high and dry, in the interior sections of every State in the Union, exempt from that evil. Where elevated dry soil and pure air abounds, therefore let not these advantages be neglected.

If the territory of France is so much covered with inhabitants that there is not spare room for mulberry trees sufficient for the silk manufactured there, we trust that America can never urge that as an apology why we should not raise all the silk needed for our national use, but we hope the enterprising spirit of our people will yet enable them to export many millions to other nations instead of importing annually as we now do about seventeen millions worth of silk materials. Of course, so much cash must be sent out of the country every year to pay for it. That silk worms will select the Chinese in preference to any other kind of mulberry, has been well attested, and from its use more silk is obtained.

Now if we have one of the most favorable climates for the culture of silk, let us not sleep as do others, but spread the mulberry throughout our fertile vallies, and cover our granite hills. Improve these sources of wealth which are within the grasp of yankee industry and perseverance, and instead of wandering to the "far west" in pursuit of what all cannot obtain, let us go ahead, harnessed with silken cords, and raise an abundance of that nourishment for the silk worm, the Chinese mulberry, which is necessary to speed the reel and shuttle, whether done in family or factories.

It is a singular fact, that while in Europe, and even in China the *garden of silk*, experience has convinced cultivators of the expediency of heading them down or cutting off the mulberry every year, for the convenience of gathering foliage,—that, at the same time, we have adopted the same method, not only for the same purposes, but also for augmenting the foliage, propagating the trees, and as a certain and sure protection from the severity of the climate.

Europeans are trammelled by the habits and customs of their predecessors, so are we. We have our corn and other crops, the culture of which has been transmitted from father to son ever since the settlement of the country; and having such veneration for our fathers' habits of industry

and sameness of crops, although twice the profits might be had from other crops. But these prejudices are fast giving way to the light of science and agricultural improvements, aided by the press and publications of the day.—*Northampton Cour.*

SILK CULTURE.

The importance of this branch of agriculture is becoming every day more apparent. The soil of the Atlantic States, otherwise poor and run out, is found to be admirably adapted to the cultivation of the Mulberry, and promises through this source rich remuneration for the trifling trouble necessary to bring the trees to perfection. If the business is pursued by with industry and zeal, the old States will be able to compete with the new, in despite of difference of soil and climate. Few farmers have any idea of the vast profit of the silk business. Four hundred and twenty pounds of silk was produced from four acres of ground, near Boston, planted with mulberry trees. This silk sold for $3, 50 per pound—amounting to $1470. The labor was performed by four girls, whose atttention was required but a small portion of the time. The following statement of the profit of one acre of ground is given by Andrew Parmentier, Esq. of New York:

One acre fenced with mulberry hedges and set out with trees, - -	250 00
Interest and additional expenses during 5 years, - - - - -	187 50
	$437 50

The acre will then produce:

From 5 to 10 years - - -	20 per cent.
" 10 to 15 " - - -	47 " "
" 15 to 20 " - - -	112 " "

after 20 years the average will continue at 112 per cent.

The proportion of silk to the acre has been variously stated from 40 to 100 lbs.—a fair estimate would probably be about 60, which at three and a half dollars per lb. would be 210 dollars—a much larger sum than could be realized in any other manner from the same quantity of land. The demand for silk goods has been constantly increasing in this country. The importations last year amounted to nearly 16 millions of dollars, and it is probable that like the cotton business, the consumption of this elegant article of dress will more than keep pace with its increased cultivation. When the fact is generally known that any young lady, by a few hours of pleasant recreation in each week, can clothe herself in a splendid suite of native silk at the low rate of 12 1-2 cents per yard, there will not be a garden without its mulberry trees nor a chamber without shelves for the accommodation of the industrious spinner. The individual who devotes a portion of his leisure to the introduction of this elegant and profitable business should be regarded as a public benefactor.

Great care should be used in selecting the seeds, especially those of the Chinese Mulberry. Nearly all of this latter kind purchased in Boston by gentlemen of this town last spring, proved to be worthless. From about 20 dollars worth of seed, one gentleman (Dr Durkee) has succeeded in raising a dozen or twenty vigorous plants. We should think that something near the sum of 400 dollars was lost by our fellow citizens from impositions of this kind. Hot water is said to be an infallible test—the seed which are good after being steeped in it a short time will sink, while the worthless will remain on the surface. John Bennett, Esq. has succeeded in raising a few fine trees of Chinese mulberry. He procured the plants, we believe, in New York. We were shown by him a few fine looking Cocoons made by worms fed on the leaves of these trees. If he succeeds in preserving his trees through the winter, he will next year reap a good crop and perhaps win the high reputation of being the first gentleman in Portsmouth who raised his own silk.

The White Mulberry has succeeded better in this vicinity. Several gentlemen have succeeded in raising a large number of plants. James W. Emery, Esq. has a great quantity of fine, thrifty looking plants; they are decidedly the best of the kind we have seen this year, and will in the course of another year be worth their weight in silver. Great care should be observed to prevent the young and tender plants from exposure to the severity of the winter. If this is done one or two years, until they become sufficiently hardy to resist the severity of the cold, no further precautions on this point will be necessary, as they are extremely tenacious of life, and when once firmly fixed beyond the power of frost they will be found nearly as difficult to get rid of as the Canadian thistle.—*N. H. Gazette.*

The Barrè, Mass. Gazette, gives the following account of a farmer in that town named Ebenezer Johnsen, who is in the 94th year of his age. He has been swinging the scythe the present hay season, with considerable vigor, and he sneers at the idea of being outdone by the younger wights of the sneath — he also performs a share of almost every kind of agricultural labor, and can truly boast of having been longer in the field, and of accomplishing more hard labor, than any other man he ever saw or heard of.

The Pennsylvania papers say there is no reason to apprehend a scarcity of anthracite coal.

GLEANINGS IN HUSBBANDRY, AND ITEMS OF ECONOMY.

BY THE EDITOR OF THE N. E. FARMER.

On preserving Vegetables.— The preservation of vegetables for future use is effected by destroying or rendering dormant, the principle of life, and by warding off, as far as practicable, the progress of chemical decomposition. When vegetables or fruits are gathered for use or preservation, the air of the atmosphere which surrounds them is continually depriving them of carbon, and forming the carbonic acid gas. The water they contain, by its softening qualities, weakens the affinity of their elements; and heat produces the same effect by dilating their parts, and promoting the decomposing effect both of air and water. Hence drying in the sun or in ovens, is one of the most obvious modes of preserving vegetables for use as food, or for other purposes, but not for growth if the drying process is carried so far as to destroy the principle of life in seeds, roots or sections of the shoots of ligneous (woody) plants. Potatoes, turnips, and other esculent roots may be preserved from autumn to the following summer, by burying them in perfectly dry soil which shall be at the same time at a temperature but a few degrees above the freezing point. Corn [grain] may be preserved many years by first drying it thoroughly in the sun, and burying it in dry cool pits, and closing these so as effectually to exclude the atmospheric air. In a short time the air within is changed to carbonic acid gas, in which no animal will live, and in which, without the addition of oxygen or atmospheric air, no plant or seed will vegetate. The corn is thus preserved from decomposition, from insects, vermin, and from vegetation, in a far more effectual manner than it can be in a granary. In this way the Romans preserved their corn in chambers hewn out of dry rock, the Moors in the sides of hills, the Chinese at the present time in deep pits in dry soil, and the aboriginal natives of Africa, in earthen vessels hermetically sealed. The origin of these practices are all obvious imitations of what accidentally takes place in nature, from withered grassy tussocks to the hedgehog's winter store; and hence the origin of herb, seed and root rooms and cellars, and packing plants and seeds for sending to a distance.— *Enc. of Agr.*

Jerusalem Artichoke.—This plant is in a peculiar manner fitted to grow under the shade. It can, therefore be cultivated in woods; and it is sometimes sown in England to afford shelter for game; the plants being left to reproduce themselves annually from tubers.

Taking into account the hardy qualities of this plant, its productiveness and easy culture, it may be doubted whether it merits the universal neglect into which it has fallen. Granting its inferiority as an article of food to the plants now cultivated for our domestic stock, it must be of some importance to have a plant that can be so easily raised and on soils so low in the scale of fertility.

To keep off or drive away Bed Bugs.— Make a strong decotion of red pepper, when ripe, and apply it with a common paint brush to the joints of the bedstead, wainscoating, &c. where these insects resort and it will kill or expel them.

Warm water for cows.— It has been said that cows will give the more milk in cold weather in consequence of having water which they drink made a little warm.

A method of making good butter from the milk of cows fed on turnips.— Let the vessels which receive the milk be kept constantly clean and well scalded with boiling water. When the milk is brought to the dairy, with every eight quarts mix one quart of boiling water, and then put it up to stand for cream.— *Hunter's Geological Essays.*

Method of preserving young trees from being injured by Hares or Rabbits.— By William Paterson, Esq. of Iberden, Kent, Eng.

Hares, rabbits and rats have a natural antipathy to tar; but tar, though fluid, contracts (when exposed to the sun and air for sometime) a great dryness, and a very binding quality; and if applied to trees in its natural state will occasion them to be bound. To remove the difficulties, tar is of so strong a savor, that a small quantity mixed with other things in their nature loose and open, will give the whole mixture such a degree of its own taste and smell, as will prevent hares, &c. from touching what it is applied to.

Take any quantity of tar, and six or seven times as much grease, stirring and mixing them together; with this composition brush the stems of young trees, as high as the hares, &c. reach, and it will effectually prevent their being barked. I believe if a plantation of ash, (which they are very fond of) were made in a rabbit warren, this mixture would certainly preserve it. These animals do great mischief amongst flowering shrubs, and are particularly fond of Spanish broom, Scorpion Senna, and evergreen Cystissus. I have had those shrubs eaten down to a stump, but as the mixture cannot well be applied to them, I have enclosed their branches with a new tar twine, putting it several times round the shrub, which has had the desired effect. Tar twine by being exposed to the air and rain, will lose its smell, consequently must be renewed as occasion requires; but the mixture is always to be preferred where it can be useful.

Note by the Editor of the N. E. Farmer.— It is probable that the above mentioned composition would preserve young trees in nurseries from the depredations of mice, moles, &c., which are often fatal to young fruit trees, &c. in many parts of the United States.

ANTICIPATED CHANGE IN THE AGRICULTURE OF THE UNITED STATES.

Some considerable time has now passed since we yielded, slowly and with difficulty, to the belief, that the introduction of silk culture in this country would be extended widely and profitably: and since adopting that opinion, we have made continually repeated efforts to impress on the people of Virginia, and the other southern states, the superiority of their facilities — in better climate, cheaper land, and surplus and now less expensive hands — for carrying on this new business, over those of our northern countrymen, who have already proved the advantages to be derived, and are investing large capitals in numerous adventures for this object. In New England, where most of these efforts are making, there is no superfluity of labor. Fortunately, every poor female, and all persons infirm from either tender or advanced age, may be, and annually are, employed profitably, according to their measure of bodily power. Yet still it is considered profitable to divert much of this labor to the silk business: and that too, in a climate so rigorous that artificial heat must be used frequently in rearing the worms, and the best kinds of mulberries are often greatly injured if not killed to the ground, by such severe winters as the last. In Virginia, there is no difficulty as to climate — thousands now unemployed and expensive hands might be given to the work — and lands, now unprofitable or neglected, and at very low prices, would serve as well for planting, as those selling ten or twenty times as high in New England. Putting all views of greater pecuniary profits aside, if the silk culture could be established in Virginia, without any absolute loss to the undertakers, a great moral and political benefit would be gained, in giving the bread of independence and of honest labor, to thousands of destitute females, who have now no resource but to live on the charity of others, or to starve on their own ill-paid labor of the needle.

Another new kind of industry now seems likely to be introduced, and established with profit — and which, in a different manner, offers great benefit to the agriculture of a large portion of the United States. This is the making of sugar from beets. We readily confess, that until very recently, we considered this scheme worthless, and absurd in every country that could freely import sugar produced from the cane — and that this species of industry, which could not be established by the iron despotism of Napoleon, and the protection afforded by his "continual system," could not exist in times of peace and of comparatively free trade. But we have been forced to yield the opinion to such facts as are presented in the letter of Professor Cooper, and other pieces in this No. which are but specimens of many that have recently appeared. If, as seems to be undeniable, beet sugar can be made cheaper than that of the cane can be bought, there is an end of all question and doubt as to profit. There is also an agricultural benefit to be expected from the new culture of beets, for sugar, that is very important, and that is an addition to all the pecuniary profit expected from the sale of sugar, and the profits of live stock fed on the pulp left after the saccharine matter has been expressed. This is the introduction in our farming of what is so greatly needed, an increased extent of culture of roots, or green and meliorating crops, to take the place of our too extensive grain culture. The culture of beets for sugar, and the use of the pulp as food for cattle, must necessarily make the rotation of crops more mild, and add greatly to the improvement of the soil — and by this means, would ultimately add very far more to the fertility and wealth of a country, than as much grain culture, even though the pecuniary profits to the farmer, at first, might be no more. The same important consideration applies also, though in a different manner, to silk culture. Thus it may well happen, that the introduction of these two new kinds of culture, even though not attended with greater pecuniary profits, (or not much greater,) at first, would be productive ultimately of far greater to each individual farmer, as well as of greater moral and political benefits to the nation.

This important consideration of the advantage of beet culture to a rotation of crops, is properly appreciated in France. The latest French article on the subject that we have seen is from the pen of M. Soulange Bodin, and appeared in the *Annales de l'Agriculture Francaise* for April, 1836. We offer a translation of a passage on this head.

"The Viscount Morel de Vinde, in these Memoirs, has then presented the sugar beet as being the best, or rather the only kind of tilled plants which, in the four-shift rotation can usefully be substituted for the year of naked fallow (to prepare for wheat;) and he thus considers as connected the universal perfection of our agriculture, with the manufacture itself of sugar from beets: a manufacture which, by its indefinite extension, and demand continually rene wed, ought to give greater encouragement to the culture of this plant, which is susceptible of having, from this moment, a general use, and a certain sale. Indeed he says, the (making perfect the) four-shift rotation, consists in finding a plant that is not exhausting to the soil — of which the tillage is confined to one year, and serves well to cleanse and to pulverize the soil — and of which the products, not yielding a kind of food for men before indigenous, or belonging to the country, shall however be in general use, and command certain and ready sale. The beet, applied to the making of sugar, fulfils

perfectly the conditions of the problem." * * " It may also be observed, that the plant which by the production of this sugar, renders possible the universal improvement of agriculture, furnishes besides, by its remains, (as food) the best of all manures from cattle. This plant fulfils so completely all the conditions required from tillage crops, that it would be necessary to substitute it for the naked fallows, even though it should not yield otherwise (and at first) such rich or important products."

In the report of the Council of Agriculture, Manufactures and Commerce, which was also published in the *Annales*, it is stated by the Minister of Commeree (presiding at the meeting) that the manufactories of France in 1835, yielded 25 millions of kilogrammes of beet sugar, of the value of 35 francs the quintal, which is equal to one third of the annual consumption of the kingdom; that 50,000 hectares of land were then subjected to the culture of the plant; and that in those parts of France where the culture was established on a large scale, the value of the lands had been increased, and in many cases even had been doubled.

According to the present imperfect lights on this subject, we fear that the beet culture will not suit a region so warm in Eastern Virginia. But its introduction will be a benefit sufficiently important, even if confined to the regions lying more north and west. It is probable that the fanaticism of the "abolitionists" may be mingled with the motives to spread this culture in the north — and that one of the results may be an effort to lessen the consumption of sugar from the cane, as being the product of slave labor. Be it so. This fanaticism cannot exert any part of its tremendous force more harmlessly to the south, or more beneficially to the north, than in promoting the extension of this new culture — *Far. Reg.*

FRUIT.

Why are some fruits improved in sweetness by drying or half withering on the trees?

Because their watery parts thus exhale, and the sugar is virtually increased in quantity.

Why should grapes hang on the vine until they are perfectly ripe?

Because unripe bunches never get any riper after they are gathered.

Why should grapes be eaten soon after they are gathered?

Because unlike other fruits, grapes do not improve in flavor after gathering.

Why should the crowns be removed from ripe pine-apples?

Because, when suffered to remain, they live upon the fruit till they have sucked out all the goodness.

Why does an apple, when cut, first appear white and after a time brownish?

Becau e a fermentation arises from the rest of the fruit absorbing the oxygen of the atmosphere; the apple having previously been, by its tough skin, protected from the contact of the air.— *Denovan.*

Why are certain apples called russetings?

Because of their russet or reddish brown color

Why should raspberries be eaten from the bush?

Because their flavor is the most fleeting of al fruit. Even a few hours will diminish it, and on the bush the flavor does not contiuue above two or three days after the fruit is ripe. If kept for two or three days when gathered the flavor is almost entirely gone.

Why has the barberry been banished from the hedgerows of England, where it formerly grew in great abundance?

Because it was generally believed to be injurious to the growth of corn.

This belief has been treated as a vulgar prejudice; but the fructification of the barberry is incomplete, unless the stamens be irritated by insects, when the filaments suddenly contract towards the germ. The flowers are therefore, by a beautiful arrangement of nature, peculiarly attractive to insects; and thus the barberry may become injurious to neighboring plants.

Why are chesnuts best preserved through winter in sand?

Because, if there be any maggots in the chesnuts, they will come out, and work up through the sand to get air.

Why is fern preferable to straw for the bed between the layers of fruit?

Because it does not impart the musty flavor which is so often produced by the straw.

Why are the autumnal fruits, as plums, pears, &c. more crude and indigestible than those of summer?

Because in part, of the state of the constitution. Thus, at the commencement of summer the system is more nerved and braced by the atmosphere of winter and spring, and by the drier food which necessity obliges us to take at those seasons; so that the cooling fruits of summer are wholesome from their opening the bowels, &c. But it is not wonderful that a continuance of watery and nutritious food like fruit should, towards the autumn, produce debility in constitutions partly predisposed to it, by the continual and relaxing heat of the summer months.— *Knowledge for the People.*

A FARM.

The editor of the Vermont Chronicle in a letter from Wilkesbarre, Pa. June 13, gives the following account of a farm which he visited near that place.

This farm extends from the bank of the river one mile, embracing in one rectangular plat 160 acres of level bottom land. I was shown first a field (25 acres) of Indian corn. This was undergoing the first dressing with the corn harrow and awaited the second and third dressing by the implement called the cultivator — the hoe not being used at all. Sixty bushels to the acre is the ordinary yield. Adjoining this was a field of 25 acres of oats, in excellent condition and promise. I was next shown a field of about the same quantity of wheat, of the species blue stem and white flint. Thirty bushels is an average yield to the acre for wheat on this land. This crop was suffering from the Hessian fly. On examining several stems I found, near the ground and imbedded beneath the outer sheath, from one to five of the flies in the chrysalis state. The effect of this is to weaken the plant and cause it to fall down, perhaps to break off and die. After the fly is hatched it does no injury to the wheat. This fly is doing great injury to the wheat in this region. Let me suggest to the bug-catchers to devote more attention to the whole natural history of insects, especially pernicious ones. The man who will develope the changes and periods, and habits of the Hessian fly, the cut worm, &c. with a view to remedies for their ravages, will do the state more service than the barren exhibition of fifty cabinets of insects with pins stuck through their backs. The cut worm is also making great ravages with the corn. My agricultural friend says that in his experience, he has found deep and thorough ploughing the most effectual remedy. The worm or its eggs, lying near the surface, if the soil is turned but slightly, the insect is soon warmed by the sun's influence, and awakes to life just in season to cut the dorn in its tenderest state. In the other case, it does not emerge till the corn is out of its power. He has detected two species of equal numbers, a large and a small. Both are indifferent as to what they eat,— they eat the first thing they come at whether corn or wormwood.

My friend next shewed me a pasture of 25 acres, in which were twenty head of cattle, mostly cows of the Durham Short Horned and Devonshire breed. These were in so good case, so sleek, and so well favored, that to one who the past winter, had lived in the region of scarcity, it was truly a relief to the eye. The animals seemed to have an instinct of their good case and the source of it for they came around their master like so many dogs; one pulled his handkerchief from his pocket, others sought his hands and face with their gross tongues. Foremost among them was the bull denominated Jack Downing, three years old, weighing already twelve hundred pounds, and giving promise of celebrity perhaps equal to his namesake.

Mr B. stated that he usually cut sixty tons of hay, and was in most successful use of the patent revolving horse rake. With a horse and boy he does the work of six men with the common rake or from two to three acres per hour. He says, that to adapt the rake to rough ground, it is only necessary to make the rake shorter — say six feet instead of ten. He deplores the dilatoriness of his fellow farmers in seizing hold of the improvements in utensils, in modes of cultivation, and in the reading of agricultural papers.

All the land of this farm is now worth $100 per acre. The average net profit of the whole may be estimated at $10 per acre. Prices for two months past as follows: wheat $1.25; corn 75 cts.; oats 50 cts.; hay $10; flour $6 25. The prospect for crops of grain in the country generally the ensuing season, is poor, and high prices are anticipated. Crops in this valley are better than in other parts. I find the severity of winter before last, made great havoc among trees in this region. Peach trees nearly all destroyed — plums, a great many — also cherries and pears, together with some forest trees. I left the premises of this plain, unpretending, but successful farmer, with as much satisfaction as I should a model farm of high scientific character; inasmuch as the former is the realization of the latter — its ultimate aim and result.

Silk Culture in Kentucky.— Extract of a letter from one of our subscribers in Danville, Kentucky:

"I, as well as many others in our state, are engaging in the culture of silk. Some silk has been raised in our state for 12 or 14 years, from the native mulberry, which is very abundant, and makes silk of good quality. I have from 25 to 30,000 plants of the white mulberry growing from the seed sown last spring. They are very flourishing, and I have no doubt but will do well in our climate. I shall procure a few thousand of the Morus multicaulis this fall and next spring, and extend my native mulberries to several thousands believing, from some little experience and observation, that as good silk can and has been made from that tree as we ordinarily see in the market. I shall feed from 4 to 600,000 worms next year on the native mulberry, which is the best evidence I can give of my confidence of its answering every purpose, and making silk of good quality."— *Gen. Farmer.*

More than a Burster! — Mr J. A. Morton of Hadley just sheared from a Merino Buck, eight pounds and two ounces of fine wool! Who can go ahead of Squire Morton?— *Northampton Courier.*

AN ADMIRABLE INVENTION.— We yesterday examined Mr Edward's Forcing Pump, now being exhibited at Riley & Kinney's, 68 and 70 Cornhill. We never have seen an invention which we are able to recommend to the public with more decision and satisfaction. We conceive it to be a public benefit — and as soon as its superiority is made known it must supersede most of the pumps now in use for many purposes. It is very compact, and occupies but little room — with simple and strong machinery. It stands upright like a common pump, and while it draws the water from a well with the requirement of but moderate power, it will force it *in a steady stream at the rate of over* 60 *gallons a minute* to the roof of a four story house. *We have seen the operation*, and therefore state this with confidence. A reservoir can thus be filled at the top of a house for use in the chambers, or for bathing, in a few moments. After affixing a hose, the roof and outside of the house may be washed; or in case of a room catching fire, it may be flooded with water in the *same time required to obtain one bucket.* A garden may be watered by it — and as a convenience and protection, being in reality a minature fire engine, it will become in great requisition. Colonel Amory and Mr Barnicoat give it their decided approbation. We advise gentlemen who are building to call and examine it before they affix other pumps to their houses, when this, which centres in itself so many advantages, costs but about the same amount.— *Galaxy.*

SEAMENS' LAMP.— This is the name given to an improved lamp, constructed particularly for use on ship-board; but may be advantageously employed in mechanics' shop and elsewhere on shore. It is so contrived, that when hung beneath a vessel's deck at sea, it will constantly maintain a perpendicular position — the bottom or stand being loaded, and the body connected by a chain with a guard above, which answers the double purpose of reflecting the light, and protecting from heat the wood work from which it may be suspended. It is a simple, but evidently a very economical affair; as it probably costs but a trifle more than the ordinary tin or japan lamp; while it cannot but insure a great saving of oil — being free from liability to overturn, and when properly trimmed emitting less smoke and consuming less oil than most others which afford the same quantity of light. For the cabin, the steerage, or the forecastle, no article of the kind can be better adapted. They are manufactured by Mr William Howe of Boston, and may be purchased in that city of A. Fearing, & Co. No. 1 City Wharf. A specimen may be examined at the Inquirer Counting Room. — *Nantucket Inq.*

Mr Abel Williams of Ashfield, has invented a machine which he calls the *Potato Cutter*, by which, in three minutes time, a bushel of Potatoes — Turnips — Apples — Pumpkins and other fruit, may be cut sufficiently fine for sheep — cows — and other cattle. The price of the machine is from $2 to 2 50. It may be seen at the Cattle Show Oct. 12th, 1836, in this town. We hope some of our mechanics will invent a *simple cheap machine* for rasping Beets, applicable to family use, as we are satisfied it can be done.— *Northampton Courier.*

A discovery has been made, which has created some sensation among the manufacturers. It is a process for breaking flax. The flax has the appearance of silk, and is capable of being made into the finest thread, for the construction of veils, lace, cambric, &c. The texture is pronounced more beautiful than anything of the kind before manufactured.— *English paper.*

USEFUL INVENTIONS.— Mr Rufus Porter of this city, the inventor of a large number of labor-saving machines, proposes to put ten of his useful improvements into a joint stock company of $20,000 (consisting of 20 shares of $100 each,) for the purpose of proceeding immediately to manufacture the articles. Not more than five dollars per share will be required until at least three of the said inventions shall have been patented, and the business of building or manufacturing the same shall have been established. The profits arising from these will be applied to introducing the others in the same way, so that it is believed the whole may be brought into use without any farther instalments being required, and none at any rate will be required except by a vote of two thirds of the stockholders. After the business is fully established, the profits will of course be divided among the holders of the stock.

Most of these inventions and improvements have been tested and found to operate in the most satisfactory manner. One of the most important, as we think, is the Curved Float Water Wheel, which by frequently repeated experiments evinces a superiority of nearly fifty per cent over the ordinary water wheel, yet is in fact one of the cheapest construction.

The plan adopted by Mr Porter for bringing his improvements into use is certainly a rather novel one, yet we do not perceive that it is open to any objections. A bare examination of the models of these inventions is sufficient to satisfy any one of their practical utility, and we have no doubt the stock will soon be taken up.— *Daily Times.*

NEWSPAPERS.— The safety-valves to the political world, through which escape the superfluous steam that is generated by the undue heat of party warfare.

THE HARLEIAN DAIRY.

BY H. C.

Milk, next to bread, is undoubtedly one of the most general and important articles of human diet. None is more universally salutary, and none more nutritious. To children it is next to indispensable; aged persons who are accustomed to it, find it extremely conducive to their comfort; and return to its use with even a stronger relish than they had for it in childhood. It is an important condiment with much of our food; and it is capable of being used in almost countless variety of delicious and nutritious forms.

Of the various animals whose milk is employed for human food, the cow, both in respect to quality and quantity, is most generally preferred. Goats, asses and mare's milk are used; but for convenience, nutritiousness, and quantity, the cow is above all others to be chosen; and, as far as food is concerned, may be considered among the greatest blessings which Divine Providence has bestowed upon mankind. As matter of diet, there is nothing which in proportion to its weight contains so much nutriment; and as a beverage, to a simple and unadulterated taste, none can be more grateful. In the country, where it can be had pure and in abundance, it ought to constitute a great article of food for children and young persons; and the miserable and pernicious and perfectly innutritious substitutes of tea and coffee, ought to be kept entirely out of their reach. In cities, however, pure milk is almost as difficult to be procured as pure water. In New York city, for example, the milk is first deteriorated, if we may be allowed to state, in the cow's udder; that is, where cows are fed upon distillers' swill, with scarcely any meal, and with hardly hay enough to form a cud, the milk produced is of a very inferior quality; besides, with a large proportion of the milk-dealers, though not all, it undergoes the ruleable and established dilution of one quart of water to four of milk; in addition to this, if it goes into the hands of the grocers, as in general they are too *modest* and *humane* to sell anything like *strong* drink, it commonly undergoes another application from the town pump. Indeed, we state from the best information, that there are grocers in this city, who, without any aid from the cow, or at least the slightest possibility, have offered the milk-men, when the supplies of the milk-men for their customers fall short, to furnish them from their own (the grocers) resources, what they may need to make their supplies sufficient: that is, they iterally manufacture the milk, as we sometimes say, "out of the whole cloth." The process, we understand, is this: to take some Indian meal of the white groud seed variety, and pass some scalding water through it; and this water, dashed with a slight touch of milk, as Broomfield calls it, "three times skimmed sky-blue," *can be offered* at five cts. per quart; and at this rate is actually vended to the poor wretches, who want their cent or their two cents worth for their tea and coffee. Now whether this be or not be a real Yankee trick we shall not venture to surmise, but the ingenuity of its performance belongs to the veritable city of Manhattan. It is, however, all of a piece with many of the London tricks, which London cream is readily manufactured out of flour or magnesia and milk to a consistence to suit the most fastidious. The adulterations of human food, however, where it is susceptible of being adulterated to a profit, are most obvious and enormous, and it would be quite fortunate if all of them were as innocent as the above.

The adulteration of milk, the price obtained for it, and the frauds practised in its disposal, induced William Harley of Glasgow, an active and enterprising citizen, a few years since, to form a milk establishment, of considerable extent, in the neighborhood of that city, for the supply of the market with this article, in a pure and cleanly condition; and, indeed, so far as depended on human skill, of the very best quality. This dairy attracted very extraordinary attention from its novel and convenient arrangements, and the admirable manner in which the whole business was conducted. It was visited as a matter of great curiosity by vast numbers of people, including many of the nobility, and several of the princes and sovereigns of Europe; and as far as concerned the object of furnishing an article of the best quality, and in the best condition, and with scarcely the possibility of adulteration, until it left the hands of the vender, its purposes were admirably accomplished. It was not, we believe, equally profitable to the enterprising proprietor; the establishment was evidently conducted on too expensive a scale to be expected to yield large returns. Harley has given a detailed account of the establishment, and of his own experience in the dairy business. It is a book containing much valuable information; and I have thought it would be both interesting and useful to the readers of the New York Farmer to have an account of it.

I shall not undertake a particular description of the building. The largest amount of cows kept at any one time was two hundred and sixty. The largest building contained stalls for one hundred cows. There was an appendage which deserves particular attention. At the end of the house was a large tank or reservoir, as a depository for the cows' urine; it was fifty feet long, six feet wide, and six feet deep. The surface of the tank was on a level with the bottom of the cellar; it was covered with flat brick work, arched, leaving a space in the centre of the arch four feet square, for taking out the sediment. This aperture was

surrounded by a wall sufficiently high to prevent the dung from going into the tank. This was an admirable provision for saving a substance of extraordinary value to the farmer, where he can avail himself of it. In Flanders it is saved with the greatest care, and mixed with a rape of oil cake, as the very best manure they can apply to their lands. The only provision in this country, on an extensive scale, for saving it, which we have met with, was at the farm of Robert Smith, Esq. near Baltimore, where a hundred cows were kept; a large reservoir was made in the yard, and covered drains were formed for the purpose of conveying the urine to this deposite; from which it was taken, and by a machine like that used for sprinkling the streets of cities, was distributed over the fields. The value of this manure is very great, and is not yet appreciated among us. No provision is made for saving it in any of the cow-houses of New York city, where some of the milk establishments exceed three hundred cows, and the feed to which they are accustomed produces the most abundant secretions of urine.

The grand building in the Harleian dairy, which had stalls for one hundred cows, was ninetyfive feet long by sixtythree feet wide within the walls. It had vaults under the whole, divided for the purpose of receiving the dung, of storing potatoes and roots, and for an apartment for keeping the cows that were dry and prepared for fattening. This apartment being quiet, and having little light, was deemed better adapted for carrying on the process of fattening than the other cow-houses; darkness and quiet generally contributing to assist the progress and making the cattle much sooner fit for slaughtering.

It was deemed highly important, and it was so contrived, that the house should be perfectly ventilated, and at the same time preserve an equal temperature — both which points were conducive to their milking and fattening, and the cattle were in this way kept in the best health and condition. The heat was generally kept at the temperature from 60 to 64 degrees of Fahrenheit's scale; and as the walls were plastered carefully, the cattle never experienced any injury from cold, even in winter. A direct current of cold air suddenly admitted, was found to be exceedingly injurious and much pains was taken to avoid this.

The floor on which the cows stood was raised six inches above the passages; this not only showed the cows to advantage, but kept them dry and clean; and two and a half feet of the floor next to the trough was made of composition similar to what is commonly used in making barn floors; because the principal weight of the cows being upon their fore feet, and, as in lying down the whole weight is upon their knees, it was obviously desirable to have that part of the stall as smooth and soft as possible. In all cow-houses, he remarks in continuation, the front part of the stall should be rather lower than the back part, since it would enable the cattle to lie easier: and besides this, they would not be apt to slip their calf.

The ordinary manner of fastening cattle in cow houses, is to fix the neck of the animal between two stakes, which are commonly called stanchions. This mode is greatly disapproved by Mr Harley, as it prevents the cattle licking themselves. The indulgence of this propensity he deems of much importance to the health of the animal, as it contributes like currying to promote a free perspiration, and increase the circulation of the blood, and thus conduces to their general health. He deems the free ventilation of the cow-houses of great importance; as otherwise, the milk is often tainted by the bad odor of the houses, as has been experienced even in passing it from the cow into the pitcher. As the dung was preserved from the wind and weather, it was considered worth 25 per cent more than that which had been so exposed; and the urine was sold by the butt of about four hundred gallons.

The milk-house in its construction was particularly favored by the nature of the ground. It was long, high, and wide, and every possible means employed to have it cool and airy. The floor was paved with stone of the best quality, the milk-dishes were placed upon the pavement on each side, leaving a space for a passage in the centre; they were then filled with new milk, a plug was put into the cesspool; the stop cock at the end was turned, und the water allowed to flow until it covered the floor where the milk vessels were placed. The house was in this way kept cool, and the floor was regularly washed and rubbed with a dry cloth; and this, with a complete ventilation of the premises, kept the air pure. The churning-house at Willowbank, was ventilated and lighted by windows in the north side, and in the roof, covered with fine wire gratings. The milk-office contained the large tub for receiving the milk from the cows, from which it was measured out to the distributors. The manager had a house within the premises; the dairy-maid and one or two of the servants were accommodated there, it being necessary they should be on the spot night and day. Two apartments, one for the men, another for the women, were allotted for the purpose of keeping their clothes; and that they might more conveniently change them, before going out to deliver the milk, numerous clothes and towel pins were fixed in the wall; and the rule to be implicitly observed by the servants was, that their hands and face washed, and their dress to be neat and clean. Cleanliness, indeed, was always regarded as essentially necessary in this and every part of the establishment.

Milk is often either spoiled or deteriorated from the vessel not being properly cleansed. If milk is put into a place not well ventilated, or where other articles are kept, it will affect its flavor. This was often ascertained by some of the Willowbank customers having their milk deteriorated, after remaining a short time with them, while it retained its rich flavor with others, who received it from the same pitcher at the same time.

There was a steam engine connected with the establishment, for various purposes; for heating water, for steaming provender, for propelling a threshing machine, a turnip and potato-slicer, a hay and straw-cutter, a grain-bruiser or grinder, and a churning apparatus. The steam-engine was one of about six-horse power; but the boiler could have supplied an engine of twelve-horse power. Coiled within the boiler was a leaden pipe, 150 feet long, and 2 inches in diameter; cold water was admitted at one end of this pipe, by a stop cock, and the water was heated by passing through the boiler. Branches were taken from the other end of the pipe to the scullery, hot baths, bakery, &c.

A steam-pipe, from the boiler, was introduced into the steaming vessels, for preparing food for the cattle, so that one fire of dross was sufficient for the whole establishment. The milk office and other apartments were also heated by hot water vessels. The steaming vessels were made of plate iron; the one for cows was ten feet long, four wide, and four and a half deep, with a semi-circular top, hinged on one side, and lifted by weights and pulleys; the lid was formed round the edges, to prevent the steam from escaping. The cut provender, consisting of turnips, hay, &c., was put into this vessel in layers, well salted, and with a sufficient quantity of water. The vessel had a false bottom, perforated with holes, under which the steam was admitted. The potatoes were generally steamed by themselves, in a vessel, and the fresh water, which was deemed unwholesome, drawn off. The potatoes, turnips, &c. for the horses, were washed clean; those for the cows were not washed, but put in by themselves; and when at the boiling point, the first water was let off; they were then mixed with turnips, hay, &c. in alternate layers, and sprinkled plentifully with salt.

Every milker had a strong tin vessel without a lid, which held about forty quarts. As each cow was milked, the milk was emptied into this vessel, which was placed in the transverse passage, to be out of the reach of anything that might fall into it, if it were placed in the passage behind the cows. When the vessel was filled it was carried to the milk-office, and emptied into the receiving tub, and the quantity marked upon a slate by the clerk or person in attendance; this task was repeated till all the cows were milked, and the whole transferred to the milk-book.

Each distributor had a pair of milk pitchers, with lids to fit tight, which contained from twelve to eighteen quarts. These were locked and secured to prevent adulteration. Every possible pains was taken to preserve the milk free from any extraneous substance, and to deliver it pure to the customers.

We proceed now in our account of the Glasgow Dairy or milk establishment, quoting freely from the accounts given of it from Harley himself.

As there would occasionally be a surplus of milk, what was returned or not wanted for the customers, was set for cream. Most of the vessels for raising cream were made of oak, and were well washed, boiled, and rinsed every time they were emptied. To prevent the bottoms from twisting or warping by boiling, there was a second bottom transverse; and the two bottoms were pinned together as in ship building. They were twentyseven inches in diameter and five inches deep.

We believe that wooden vessels are, after all much to be preferred for the keeping of milk. Metalic dishes of every kind are liable to he corroded by the acid of the milk, producing in some cases a compound absolutely poisonous; and earthern vessels, which are glazed with lead, are liable to the same objection. Glass or China would be to expensive, and not procurable; wooden vessels may require rather more care in order to keep them clean, but there is no impracticability in the case, otherwise they are liable to no objection.

The vessels for holding milk or cream for scuring stood in the churning-house or an adjoining apartment; the milk or cream stood in them until it was thick and sour, without which it would not churn to advantage. There was a vessel for each different milking, as it was found injurious to mix the milk; and if milk and cream were put in at different times, it was always well stirred. It was found, however, that the preferable way was to keep every quantity distinct, and to allow it to become sour by itself.

Large stands were filled at the wash trough and carried to the head passages at feeding time; from these the feeders gave a small additional quantity of food to the cows as they required it; but great care was taken not to give too much to any. Some distiller's wash, or waters, or a mixture of both, was given them to drink; and when the animals were satisfied the vessels were removed. There was also a feeding vessel or tub for each cow, which was made of oak, twenty inches in diameter, and ten inches deep.

The byremen were each supplied with a rake, a broom, and a forked stick, for gathering up the

dry litter to the fore feet of the cows; these were preferred to iron, which sometimes injured the animals' feet. Each milker had a coarse towel, a washing cloth, a currycomb and a hair-cloth.

Early in the season, part of the proprietor's farm and some small fields contiguous to the cow-house, were sown with barley and grass seeds; these were watered with cow urine by means of an engine upon the principle of a fire engine. There was also used for that purpose hand-barrows with broad wheels, upon which barrels were placed filled with urine. Under the barrels were placed conductors about eight feet long, perforated with small holes; these barrels were easily wheeled along the rich soft ground, which would have been destroyed by horses and carts. The urine was carted to the fields in large casks, from which it was carried in stands resting on spokes to the engine and barrows.

The grass of the fields thus irrigated was cut 5 or 6 times a year; and though not very long in the blade, there was a great weight of produce. Indeed, it was so thick and rich that it would have rotted unless cut often.

The first cutting generally commenced about the middle of April, and was continued once a month. The grass was cut during the day, when the weather was wet or moist; but when it was dry, it was cut late at night or early in the morning, and the field irrigated immediatety after being cut; the process was sometimes performed during the night. Sir John Sinclair visited one of these fields, which has been cut sixteen times in three years.

There was a public washing-house adjoining the dairy, all the soap suds from which was carried into a well or tank, and applied in the same way as urine; and sometimes the two liquids were mixed together, or if the weather was very dry the urine was diluted with water. If private families were to preserve their soap suds, and the urine of their cow, if they have one, it would be found of essential benefit in manuring their gardens.

The provender commonly used at Willowbank consisted of hay, straw, grass and green barley; also Swedish turnips, and the different varieties of Aberdeen yellow, red tops, &c., also mangel wurtzel, carrots, cabbage, ground oil cake, bruised beans, and other grains.

Mangel wurtzel was recommended to the proprietor as provender for his cows upon an economical ground. He accordingly made a trial of it in 1814, but the result did not answer his expectation. It was not productive as a crop, except in particular soils, such for instance as suited carrots. Besides it did not stand the frost, and it was found necessary to be taken up in the fall, the tops cut off, and the roots used during the winter, mixed with other provender. A trial was made with this root and Swedish turnips; a corresponding weight of each was given to two lots of cows of equal numbers, and great attention was paid to the quantity and quality of milk produced, and the improvement in the condition of the cattle. In these respects, however, there was found to be little or no variation. The quantity and quality of the milk, and the improvement in the condition of the cattle were much the same; but as the mangel wurtzel did not stand the frost, and moreover required a deep soil in the cultivation, the Swedish turnips were necessarily preferred.

About this time, Mr Coke of Norfolk, lost some cows, and other agriculturists had their cattle much injured by cutting mangel wurtzel; a circumstance which excited intense interest, not unmixed with serious apprehensions, and gave rise to much discussions in the periodicals of the day on the merits of that root. There was no instance, however, in the Willowbank Dairy of any bad effects resulting from the use of it. The quantity given as a mixture, however, was comparatively small, except on the occasion just noticed, when trial was made of it with the turnips; and before that trial was made, the roots had laid a considerable time in a dry cellar, whereas Mr Coke's cattle had the roots and leaves when full of juice.

These statements hy Mr Harley, seem to me of considerable importance. I have had considerable experience in raising both the mangel wurtzel and the ruta baga. The mangel wurtzel is a far less certain crop than the ruta baga. It yields often a great amount to the acre, though either through the seeds not germinating, or the plants being cut off after it came up, there were always large vacancies, however, I usually filled up with ruta baga. The mangel wurtzel was liable to be injured by the frosts, and in my own experience it has not kept by any means so well as the ruta baga. As feed for milk cows, I have found them always very fond of it; that it greatly increased their milk; but at the same time rather disordered their bowels and very much reduced their flesh. I have given it however in good quantities, at the rate often of a bushel after being cut, to a cow per day. Some gentlemen, for whose skill and experience I have great respect, have used and highly approved it. John Lowell, Esq. speaks of its use for milch cows in terms of strong commendation. To ruta baga I have no objection to be urged excepting the taste, which Cobbett, in his enthusiasm for rura baga, insisted upon it, that this peculiar flavor was absolutely agreeable; but to many persons it is extremely nauseous. If the turnips are sound and no decayed parts are given, this taste is not always perceptible; but it becomes so as soon as it is heated, the

butter being melted on the cream or milk applied to tea or coffee. There is said to be a remedy for this taste, by using a very small quantity of saltpetre and water, in the milk as it comes from the cow; but I cannot in this case speak from experience.

Mr Harley continues his account by saying, that instead of attempting the ill-judged economy, which pinches the cattle of their food, every attention was paid to make each cow eat as much as possible, without running into the opposite extreme of over-feeding; and for that purpose the mixture was occasionally varied; and sometimes a few raw potatoes or turnips were given by themselves, which tended to whet their appetite. There is a Scotch proverb which says, "the cow milks by the mow," and as the object of the Harleian Dairy was to fatten as well as to yield, the more care and good management were exercised in their feeding, the sooner these objects were accomplished.

Young grass and green barley, but particularly young clover, contain a great quantity of juice, and fixed air, which has often proved injurious to cattle. The irrigation with urine made these crops luxuriant and rich; the first cutting was therefore mixed with a large proportion of old hay or straw, to which was superadded a good quantity of salt, to prevent the cows from swelling or blowing. When wet, a greater proportion of these ingredients was used; this mixture was allowed to stand from twelve to twentyfour hours, and was frequently turned and shaken to prevent heating. Young or wet clover was never given without a mixture of dry provender. By this means the rich juices of the green food were absorbed by the dry fodder, which enabled the cattle to feed freely, without the risk of injury.

In proportion as grass decreased in the autumns turnips became a substitute. As the season advanced when grain and distillers' wash were plentiful and cheap, which was generally the case in winter, a large proportion of these were given with the more succulent food; but they were apt to make the cattle grain sick, and to prove injurious to the stomach of the animal. It has been ascertained, if cows are fed long upon grains of distillers' wash, their constitution will be quickly destroyed; cattle thus fed should not be kept longer than eight or ten months. One effect of this copious feeding upon distillers' wash, as we have learned at the New York city establishment, is, that after a while the teeth of the cows thus kept become loosened, and they are unable to masticate any hard or long food. It seems to be a pretty fair inference, that where the constitution of the animal becomes thus affected or diseased, the quality of the milk is likely in a correspondent measure to be injured. Of this, however, the buyer is not able to know anything, and it is not for the interest of the seller to inquire too particularly.—*New York Farmer.*

A LEAF FROM THE NOTE BOOK OF A FARMER.

Some experience, and more observation, has convinced me that one of the most common errors into which farmers fall, is undertaking more work than they can perform; hence I insert the following *Mem.* Never to lay out more work than there is a reasonable probability of my finishing in good time, and in good order. Labor is capital, and time is capital, and a man should know how much of both he can bestow on any given part of his farm before he undertakes its cultivation. Serious losses result from a neglect of this rule, for there are many farms, and many operations in farming, in which a failure in time or labor is fatal to the hope of profit. There are many farms so situated that the crops will not pay the expense of cultivation, unless manure is used to a considerable extent; now if the farmer plans his business on so extensive a scale that he has no time to collect and apply this essential article, his inferior crops will prove a source of loss instead of gain. If he plants a field of corn, but has so much other work to do that he can hoe it but once, and that slightingly, when two thorough ones are required, he must not complain if his neighbor, who employs a capital of both time and labor on his corn, should gather a harvest far exceeding his own. If he allows his manure to lie in the barn yard through the summer, washing in the rains, and wasting in the sun, because he had not time to apply it to his corn or barley grounds in the spring, he may be sure that he is not in the way to get the most profit from his farm, or the most benefit from his barn-yard. The man who has no time to clean his seed wheat, because he is so driven with work, will most likely find some five or ten per cent of his crop will be chess and cockle at harvesting. But there is no end to the inconveniences that result from attempting too much on the farm; from beginning to end it is evil; it makes the whole process of farming up-hill work; it allows not a moment for relaxation or improvement of the mind; it places the farmer and his work in wrong positions, the latter always driving the former; and he who does not correct the error in time, will find himself driven out of house and home.

Mem. Never to willingly subject myself to a charge of ignorance on any subject of permanent utility or general knowledge, not of a kind strictly technical or professional. The notion so prevalent, that the farmer, from the very nature of his avocations, must necessarily be ignorant of everything that does not relate to his employment, should be exploded, and none are more interested in the

matter than the farmer himself. It may be asserted, that few professional men, who are zealously and successfully engaged in their several pursuits, have more hours to devote to the acquisition of general knowledge of a useful kind, than the farmer. All that is wanting is the taste for knowledge — and this taste is usually an acquired one — and the means of information will follow as a matter of course. Papers, periodicals, books, are all so plentiful and so cheap, and information on most topics has been so condensed, that to plead want of means, or want of time, for the acquisition of knowledge, in sealing our condemnation with our own hand. True, a farmer must work, and work hard — to labor is his glory, and in it he finds his reward. The free laborer who tills his own farm, has a prouder patent of nobility, and can trace a longer pedigree, than any monarch-made race of peers on earth; but he must never be ashamed of his calling, or ape the follies or vices of those who ridiculously deem themselves above him.

Mem. Always to perform whatever I undertake. The celebrated John Hunter, towards the close of his life, was asked how he had been able to accomplish so much labor. He replied, "by always performing what I undertook. If an object presented itself to me as desirable to be accomplished, I first inquired whether it could be done — if it was necessary it should be done — and these two points once settled, the conclusion was I could do it as well as any one else, and by perseverance it was done." This is the true course to be pursued by the farmer. Only let him determine what is indispensable, and necessary to success in any farming operation, and he will rarely fail. The object and the means of attaining it should be distinct in the mind, and these should be unhesitatingly pursued. Perseverance has wrought wonders in the farming world, and its efficiency is not by any means lost. The most highly cultivated parts of Enrope, were considered as hopelessly barren; and our country exhibits some more honorable examples of what skill and determined industry can accomplish.

Mem. Always to pay particular attention to the garden. Some farmers, by their continued borrowing, seem to believe in the maxim, that "*good neighbors are half one's living*," but this I would have apply to my garden. If properly selected, well manured, and carefully planted and tended, a garden plat of half an acre will half support a moderate family. The garden forms a place into which a thousand scraps of time can be profitably cast, and health and pleasure be, as they unhappily not often are, combined. Flowers may be called the poetry of the farm, and they are so closely allied, that he who loves not both of them, may be said to have but half a heart, and the woman who neglects them is — is unpardonable.

Mem. Never to suffer the season of gathering and securing seeds to pass, without laying in sufficient quantity for my own use, of the very best of all the necessary kinds than can be procured. It costs but little trouble at the time; it enables you to be certain of the kind and quality; and when the season of planting or sowing arrives, saves you an infinite deal of vexation and trouble in looking them up. The governing maxim of him who would be a thrifty farmer, so far as concerns what can profitably be raised on his own farm, must be — *always to sell, never to buy.*

Mem. Always to pay particular attention to the boundary fences of the farm; certainly to those which serve as division fences between me and my neighbors. It can hardly be questioned that two thirds of the difficulties and hard feelings which exist among neighbors spring from this very source. A law suit and a protracted quarrel has been bequeathed to a third generation in consequence of a single neglected rail. This source of contention may be stopped in the very bud, by a little attention to the fences early in the season, and occasional repairs as they are required. If a man was to judge by the condition of the fences on many farms, by the top rails fallen off and lying rotting in the grass, by the unruly cattle, sheep, and horses, that seem to have taken undisputed possession, he would arrive at the conclusion that the owner thought it beneath him to pick up a rail, replace a post, or pile a few stones, that may have fallen down. Many farmers adopt a course, of all others the best adapted to make their animals unruly and troublesome. If a few rails get down, or a top bar or two falls, instead of making a thorough repair of the damage at once, they go to work by piece-meal, adding a rail or bar at a time, giving their cattle and colts the very practice necessary to enable them to obtain perfection in jumping; a practice which rarely fails of complete success. It may be laid down as a maxim, that one unruly ox or horse, or even sheep, when not confined, but allowed to run at large or with the stock on the farm, will occasion more damage during a season than they are worth; not to speak of the vexation and loss of time they produce. The only safe place for an unruly horse is a stable; the only fit place for a troublesome ox or sheep is the slaughter house.

Mem. "Never to put off till to-morrow what what may as well be done to-day." This maxim, if acted up to, would prevent an infinite deal of trouble. Pure laziness, or pure carelessness are continually prompting us to take our ease and let the world slide; and in no sphere of life does the indulgence of this disposition to procrastinate produce more injurious effects than in that of the farmer. I never knew a "time enough yet" man, who was not always behind his work, and in consequence a serious annual loss. There are some

crops in season, had better not be put in at all, as labor and seed are thus prevented from being thrown away. It is besides always easier to perform work in the proper season than at any other time; for instance, how many cold fingers would be prevented if farmers' corn was gathered and husked in October, instead of remaining on the stalk or in the shock till November or December; and how certainly would the waste and inconvenience of frost-bitten potatoes be obviated if they were secured in the cellar, or buried in the holes the last of September or the first of October. All crops should be gathered when they are ripe: exposure after that period must, from the nature of things, be injurious.

Mem. Always keep out of debt. This rule must be inflexible; or if not absolutely so, the only exception must be in the purchase of land. The man who pays down will save twenty dollars in the hundred in his trading. By running in debt a few times, a man acquires the habit of purchasing a thousand things of which he stands in no need; one of the very worst habits a farmer can acquire, and which is sure, if persisted in, to reduce to poverty. Never buy an article because it's cheap, till you have inquired whether you cannot as well do without it as to have it; and whether the money you must use cannot be more profitably employed. If you need a thing pay for it; and save your 20 per cent. by paying your mechanic, your day laborer, your bookseller, and your Printer, down.—*Gen. Far.*

Chinese Mulberry.—Although defoliation might injure or destroy some trees and vegetables, the leaves being to the vegetable what lungs and stomach are to the animal life, it does not follow that all trees and vegetables suffer alike by defoliaiton. The grasses, the box, the willow, and some others, may be cut, headed down, or the leaves plucked almost for an indefinite period, without effecting destruction. Do not old pastures produce better and sweeter grasses by frequent cropping, that when first laid down? Shall it then be thought wonderful that the Chinese Morus Multicaulis will bear defoliation several times during the same season? From experiments already made, it appears that this valuable plant has been plucked of its leaves for feeding worms, not less than four or five times without any injury to its growth, — but the leading shoots must not to be topped; — and every successive crop of leaves are improved in number and weight. At the same time, the wood is acquiring hardness for future use. If the object be the formation of wood, then take off the leading end of the tree or shoot.

Another excellence of the Chinese mulberry is the richness of its leaf for feeding worms— while 100 pounds of white mulberry leaves are required to feed worms suffieient to make one bushel of cocoons, 75 to 80 of the Morus Multicaulis will do the same thing; and while it is a full day's work to pick 100 lbs. of white mulberry leaves — with the same labor 500 lbs. of the Morus Multicaulis might be collected. And while it is generally allowed that it requires about 3000 worms fed on white mulberry to make one bushel of cocoons, the same quantity of cocoons have the present year been made with 2000 worms fed with the Chinese mulberry.— *Northampton Cour.*

Drying Fruit.—As present appearances indicate a plentiful supply of the kinds of fruits most commonly prepared for future use by drying, we copy from an Ohio paper the following description of a cupboard as it may be called, which will materially aid the operation. "Take two boards eighteen or twenty inches wide, and four feet long; on the top nail a cover, extending a little over the front; then make ten or twelve drawers, of the width of the inside of the frame, say three feet, and two or three inches deep, the frame of the drawers to be made of common stuff, and the bottom of narrow pieces of thin stuff, fastened five-eighths of an inch from each other. Nail pieces on the inside of the board frame for the drawers to slide on, and the machine is done."

Place the fruit to be dried on the slits of the drawers, and the air will circulate freely through the whole; it can be placed out doors, or in the house, as occasion may require, or the drawers may be taken out for the action of the sun upon the fruit. The whole is cheap, easily made, and very convenient.

A Texan.— I jocosely asked a ragged hunter who was a smart, active young fellow, of the steamboat and alligator breed, whether he was a rhinoceros or a hyena, as he was so eager for a fight with the invaders. 'Neither the one, nor t'other, Colonel,' says he, 'but a whole menagerie in myself. I'm shaggy as a bear, wolfish about the head, active as a cougar, and can grin like a hyena, until the bark will curl off a gum log. There's a sprinkling of all sorts in me, from the lion down to the skunk; and before the war is over you'll pronounce me an entire Zoological Institute, or I miss a figure in my calculation. I promise to swallow Santa Anna, without gagging, if you will only skewer back his ears, and grease his head a little.

An Irishman had a bell hung in his lodging rooms with a string so annexed that he could ring the bell while in bed.— 'And what use is that?' said one of his neighbors. Oh it is mighty convenient,' he replied, 'for when I have slept long enough I can ring the bell and wake myself up.'